

REMARKS

Amendments

By the foregoing, claim 1 is amended to clarify that at least two of the films of the hybrid film system differ from each other in constitution, claim 8 is canceled, and new claim 25 is presented. Claim 25 is directed to a fire protection means consisting of a hybrid film system in isolation, i.e. one not including a glazing pane. The new claim finds support in the original specification, for example in the paragraph at the bottom of page 7 and original claim 20. The “consisting of” claim transition and the negative limitation in claim 25 are supported by the consistent teaching in the disclosure that the hybrid film system can be made in isolation, and then later integrated in to a construction element such as a glazing. See, for example the original specification, at the paragraph at the bottom of page 7 and original claim 20. See also MPEP 2173.05(i): “If alternative elements are positively recited in the specification, they may be explicitly excluded in the claims.”

Claim Objections

Claim 8 was objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. To expedite prosecution, claim 8 has been canceled without prejudice.

Specification

The official action stated that the amendments in the previous official action were approved “except for the amendment at the top of page 3 which states, ‘Please amend the table at page 22, line 13 as follows’” due to a typographical error in referring to page 22, line 13, rather than page 25, line 13. The amendment to the table at page 25, line 13 is presented above, and its entry is solicited.

Claim Rejections – 35 U.S.C. § 112, ¶1

Claims 13-17 and 22-24 were rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement because the claims allegedly contain subject matter not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claims invention. In particular, the Office objects to the use of

weight percentages in the claims, and states that there does not appear to be support in the specification defining the basis on which the percentages are calculated.

The applicants respectfully traverse.

A claim element added by amendment need not be expressly recited in the specification, but can find support through implicit or inherent disclosure. See MPEP 2163 II(b):

To comply with the written description requirement of 35 U.S.C. 112, para. 1, or to be entitled to an earlier priority date or filing date under 35 U.S.C. 119, 120, or 365(c), each claim limitation must be expressly, implicitly, or inherently supported in the originally filed disclosure. When an explicit limitation in a claim "is not present in the written description whose benefit is sought it must be shown that a person of ordinary skill would have understood, at the time the patent application was filed, that the description requires that limitation." *Hyatt v. Boone*, 146 F.3d 1348, 1353, 47 USPQ2d 1128, 1131 (Fed. Cir. 1998).

In the present case, the person of ordinary skill in the art would have understood, at the time the present application was filed, that the description requires the weight percentages now recited in the claims.

Furthermore, the person of ordinary skill in the art would also understand that it is standard in this technological field to specify films in parts by weight of their constituent materials, including residual moisture. As some of the constituents are solids, a skilled person would always assume that the indications of percentages are weight percentages, because it would be difficult to measure and indicate these solids in volume percent. See *Ex Parte Snook*, 119 USPQ 255 (1954), reversing rejection for insufficient disclosure, in part based on applicant's argument that it was common practice in the art to prepare the claimed compositions (defoaming agents for pulp and paper stock) on the basis of parts by weight.

There are six claim elements at issue: (1) residual moisture; (2) glycerin content; (3) MTEOS content; (4) TEOS content; (5) GTPS content; and (6) surfactant content. As described below, the person of ordinary skill in the would understand, in view of

the practice in the art and the disclosure of the present application, that each of the amounts and ranges specified in the claims are on a weight basis.

Regarding residual moisture, it is understood in the art that residual moisture in intumescent materials is specified on a weight percent basis. Furthermore, the description in the present application implicitly reinforces that understanding. For example, in the description of related publications, the specification explicitly describes residual water content in terms of percentages by weight. See page 4, first full paragraph, line 4.

The explicit disclosure of film preparation, with its consistent use of weight measures for individual components, makes it evident that the amounts of the various other components in the films described by percentages are inherently described in weight percentages. For example, the production of the various Na-water glass solutions described on page 30 specifies the addition of Crystal 0075, water, and the various intermediate solutions all in units of grams. Similarly, the various mixed alkali-water glass solutions are described compositionally in units of grams of each component. Specifically, 6.5 grams of glycerin are added to each of the mixtures of samples 01 – 07.

Specifically regarding glycerin content (e.g., claim 13, which recites between 0.5 wt.% and 23 wt.% glycerin), the specification at pages 33-34, for example, makes it evident to the person of ordinary skill in the art that the glycerin content inherently described is by weight of the film. In the “Introduction of glycerin” section, sample preparation is described as beginning with 25.52 grams of Crystal 0075 sodium water glass (36.43% solids content) with various amounts of glycerin. The table on page 34 specifies the % glycerin in the solution of each sample and % glycerin in the dried film with 25 % residual moisture. The % glycerin in dried films having 25 % residual moisture can be directly derived from the examples as weight percents given the amount of grams of Crystal 0075 sodium water glass, percent solids, and weight % glycerin specified as part of the solution.

Similarly, regarding MTEOS content, TEOS content, GTPS content, and surfactant content, the examples on pages 36 and 37 (MTEOS), 38 and 39 (TEOS), 40 to 42 (GTPS), and 42 to 45 (surfactants), which specify the amounts of each component of the examples in units of grams, directly evidences that the specified amounts of these ingredients

in the claims are in parts by weight. The amounts of these components can be directly derived from the examples as weight percents. The person of ordinary skill in the art would readily understand that such disclosure is implicit or inherent in the present specification.

The applicants note that the lab notebook pages submitted as an exhibit to the Declaration submitted herewith also specify components on a weight basis.

In view of the foregoing, reconsideration and withdrawal of the rejection are respectfully requested.

Claim Rejections – 35 U.S.C. § 112, ¶2

Claims 1, 3-5, 7-10, 12-18, and 22-24 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite based on the claim term “hybrid film system.”

The rejection is traversed.

The applicants submit that the term “hybrid film system” is not unclear and thus not indefinite. The term itself is made up of constituent words, each of which has an ordinary meaning which is clear in the present context. Furthermore, the term is defined on page 5, second paragraph as a layer system comprising at least one film and a coating of an intumescent material. On page 8, last paragraph, this system is explained in more detail. Several possible build-ups of hybrid film systems are described in that paragraph. All of them have – in accordance with the wording of Claim 1 – in common that the system comprises *at least two layers of different chemical constitution*. Therefore, the term “hybrid film system” is clear from the description. This is also the case for the formulation of Claim 1, where it is stated: “... one hybrid film system ... in which at least one film is coated with intumescent material and wherein *the film system comprises several films* that contain organic and/or inorganic constituents that differ from each other, at least in part” (emphasis added).

With regard to the examiner’s response to the remarks submitted with the previous amendment, a person skilled in the art of fireproof glazings is well aware of what the term “film” means, without a definition. Regarding the thickness of a layer, Claim 1 requires the layers to be transparent – this is already some limitation to the thickness.

Furthermore, the entire teaching of the specification makes it clear that the “film” is not a glazing and does not include a glazing.

The specification begins with a description of related technology and the disadvantages associated with the articles previously taught. After a description of older documents, the specification teaches at page 3, third paragraph (emphasis added):

Therefore, there is a need for a method for the production of fire protection layers with which the above-mentioned disadvantages do not occur. A major improvement is the approach of producing the fire protection layers *separate from the glazing unit into which they are to be installed at a later point in time.*

The specification continues to describe other problems raised and transitions to a description of the present invention which clearly delimits the hybrid film system as one which is separate from glazing units, and which can be integrated into glazing units. See page 4, fourth full paragraph, to page 5, fifth paragraph (emphasis added):

The known methods for the production of a fire protection layer in which the production is separate from the glazing unit, however, are poorly suited for the further processing of the fire protection layer thus produced. This relates, for example, to the transportation, storage *and lamination in glazing units.*

The objective of the invention is to provide a fire protection means that is easy to transport, store and laminate, whereby the fire protection means is such that it combines a high degree of fire protection with diverse applicability in various environments.

...

According to the invention, this objective is achieved in that the fire protection means comprises at least one hybrid film system in which at least one film is coated with intumescent material.

...

The objective is also achieved by a fire protection means that is to be integrated into a construction element, in which the fire protection means comprises at least two films or film layers that have different chemical compositions and that are transparent at least in sections, whereby at least one of the layers is configured so as to be fire-retardant.

The objective is also achieved by a fire protection means--optionally that is to be integrated into a construction element....

As another example, the paragraph beginning at the bottom of page 7 teaches that the film system can be adapted for “later” production of glazings and that the film system can be integrated into glazings (emphasis added):

The composition of the film system can be adapted to the various requirements without fundamentally affecting the methods used for the *later* production of the glazing. Thus, when the layer structure is changed, there is no need to change the entire production process for the fire protection glazing units, but rather only the production of the fire protection film. The *film can be integrated into the glazing* by means of uniform methods that are normally used for the production of laminated safety glass.

It is clear from this description that the film system itself does not include a glazing, but rather can optionally be integrated into a glazing at a subsequent point in time.

The claims are to be interpreted from the standpoint of a person of ordinary skill in the art. Furthermore, “During patent examination, the pending claims must be ‘given their broadest reasonable interpretation consistent with the specification.’” MPEP 2111, quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005). A person of ordinary skill in the art, upon review of the present specification, simply would not regard a glazing as a “film.” The official action states “[t]he Examiner maintains that barring a definition, the glass layers can be considered to be films under the broad definition of the term as a thin sheet of material.” This interpretation is inconsistent with the specification, and thus is not permissible under MPEP 2111. It is respectfully submitted that the claims have been given an interpretation which is unreasonable in view of the specification, and which is inconsistent with the specification. Accordingly, the rejection should be withdrawn.

In view of the foregoing, the applicants submit that the claims are in compliance with 35 USC 112, second paragraph. The rejection should be withdrawn.

New claim 25 is presented herein, as an alternative approach to claiming the subject matter of the invention, namely as a “fire protection means consisting of a hybrid film system . . . free of a glazing pane.” The applicants submit that this approach further distinguishes the art, and the applicants would welcome a telephone conference with the

examiner to discuss further claiming strategies if the examiner perceives any remaining issues.

Claim Rejections – 35 U.S.C. § 102 and 103

The pending claims under examination were rejected in view of De Boel et al. U.S. Patent Number 4,190,698, von Bonin U.S. Patent Number 5,182,049, Zernial et al. EP 1044801, and Bond et al. WO 03/024682.

The rejections in view of De Boel et al, von Boninn, and Zernial et al. are all based on an incorrect interpretation of the term “hybrid film system.” Under a correct interpretation of the claim, none of the cited references render the claims anticipated or obvious. For this reason and the reasons provided in the applicants’ response of June 25, 2009, the claims are in compliance with §§ 102 and 103, and the rejections should be withdrawn.

Bond et al. WO 03/024682 is only available under 35 USC 102(e). The Declaration Under 37 CFR 1.131 of Valentino Villari submitted herewith establishes reduction to practice of the claimed invention in a WTO member country prior to the priority date of Bond et al. WO 03/024682 (September 18, 2002), and thus the Bond et al. reference can be removed from consideration.

Conclusion

In view of the foregoing amendments and comments, the applicants believe that the pending application is in condition for allowance.

Dated: February 4, 2010

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